

Appl. No. 10/691,338
Amendment filed September 27, 2005
Response to Office Action dated June 28, 2005

REMARKS

Claims 1-12 were pending in this application and have been rejected. Claim 1 has been amended to incorporate the subject matter of claim 2, and so claim 2 has been cancelled. Claim 1 is independent.

It will be noted that the references applied in the rejections discussed below are commonly owned along with this application. Accordingly, it should be understood that any comments herein regarding those references are made only for the purposes of addressing the outstanding rejections. Such comments are not intended to alter the scope of protection to which any of those references and any of its counterpart patents and applications are entitled.

The Rejection Under 35 U.S.C. § 102(e)

Claims 1, 3, 4 and 10-12 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,585,345 to Kosugi. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

As described in claim 1, the present invention involves a liquid cartridge including a container having a liquid supply port connectable to a flowing path communicating with a recording head, the container being a bottomed-box type container having the liquid supply port, and a lid member sealing an opening portion of the container. A memory stores therein data about liquid housed in the container, and a communication unit is provided on a wall opposed to a wall in which the liquid supply port is formed, and includes an antenna portion in which at least a rectangular conductive pattern is formed, and which communicates the data in the memory to the recording apparatus by radio. The antenna portion is provided so as to occupy at least 70% of one wall surface region of the container.

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Here it is of particular interest to note that claim 1 speaks of "a communication unit provided on a wall opposed to a wall in which said liquid supply port is formed, and including an antenna portion in which at least a rectangular conductive pattern is formed". This feature is significant because the antenna portion can be exposed from an opening portion of a cartridge, regardless of material constituting the carriage, so that effective communication can be performed even by a radio output that is as small as possible. (See English specification, page 2, lines 25, through page 3, line 3).

Generally, the ink supply port is provided on the bottom wall. In such a case, the antenna portion is provided on the wall opposed to the ink supply port, that is, the top wall (upper surface) of the cartridge. By providing the antenna portion on the upper surface of the cartridge, it is possible to prevent an accident such as a short circuit that could be caused by ink that has leaked from the ink supply port (See English specification, page 10, lines 2-6.) That is, any loose ink will flow downward, not upward toward the antenna.

Further, claim 1 provides that the antenna portion occupies at least 70% of one wall surface region of the cartridge. Such an antenna portion can have a capacity sufficient for communication with the recording apparatus (See English specification, page 3, lines 10-13).

Turning to Kosugi, the cited reference, Applicants have the following comments regarding why that reference does not even suggest the invention as claimed.

Although Kosugi was applied under 35 U.S.C. § 102(e), Kosugi was published as an application on June 27, 2002, and issued on July 1, 2003, both of which dates precede the filing date of this application. Accordingly, Kosugi also could have been applied under other

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provisions of 35 U.S.C. § 102, such as § 102(a). So that this response resolves all outstanding issues, Applicants also will treat Kosugi as having been applied under § 102(a).¹

Kosugi fails to disclose providing a communication unit "on a wall opposed to a wall in which said liquid supply port is formed" as set forth in claim 1. Rather, as is clear from Fig. 5 of Kosugi, the liquid supply portion 314 is formed on the bottom wall of the cartridge 312. Therefore, the "wall opposed to a wall in which said liquid supply port is formed" has to be the top wall in Kosugi. In Kosugi, there is no communication unit located on the top face of the cartridge body 312, in contrast to claim 1, meaning this invention is neither anticipated nor suggested.

The Office Action contends that in Kosugi the storage unit is the communication unit of the invention. However, the storage unit is disposed on a side wall of the cartridge body 312, as is clearly shown in Figs. 4A and 5. Consequently, even if the storage unit has an antenna, it remains that the antenna has an arrangement that is different from and in no way suggestive of the invention as claimed.

For all the foregoing reasons, Kosugi does not anticipate or even suggest the claimed invention. Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

¹ This observation is pertinent because M.P.E.P. § 2146 states that, under 35 U.S.C. § 103(c), prior art available only under 35 U.S.C. § 102 (e-g) is not to be considered when determining whether an invention is obvious under 35 U.S.C. § 103, provided the subject matter of the reference and the claimed invention were commonly owned at the time the invention was made. Kosugi and the subject application were commonly owned at the time the present invention was made.

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**The Rejections Under
35 U.S.C. § 103(a)**

Claims 2 and 7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kosugi in view of U.S. Patent No. 6,793,330 to Usui et al. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

First, the cancellation of claim 2 renders the corresponding portion of this rejection moot.

With regard to claim 7, it should be noted that claim 7 ultimately depends from, and so incorporates by reference all the features of claim 1, including those features which already have been shown to patentably distinguish over Kosugi.

As noted in footnote 1 above, were Kosugi only available under 35 U.S.C. § 102(e), this rejection would be improper as being contrary to M.P.E.P. § 2146. Because Applicants believe Kosugi also is prior art under 35 U.S.C. § 102(a), they will address the merits of this rejection.

As explained earlier in response to the rejection under § 102, Kosugi fails to teach that the communication unit having an antenna portion is provided on a wall **opposed** to a wall in which a liquid port is provided, which here is the upper face.

Nor does Usui '330 remedy this deficiency of Kosugi. Usui '330 is cited only as teaching that the width of the ink cartridge corresponds to the type of liquid therein. Even assuming arguendo that this is correct, it remains that Usui '330 does not remedy the above-noted deficiencies of Kosugi. As is clear from the teachings of Usui '330, for example, Figs. 6A and 6B, there is no suggestion of a communication unit with an antenna, much less a communication unit with an antenna arranged in the manner claimed.

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Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claims 5 and 6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kosugi in view of U.S. Patent No. 6,799,820 to Usui et al. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

Claims 5 and 6 ultimately depend from, and so incorporate by reference all the features of claim 1, including those features which already have been shown to patentably distinguish over Kosugi.

As noted in footnote 1 above, were Kosugi only available under 35 U.S.C. § 102(e), this rejection would be improper as being contrary to M.P.E.P. § 2146. Because Applicants believe Kosugi also is prior art under 35 U.S.C. § 102(a), they will address the merits of this rejection.

As explained earlier in response to the rejection under § 102, Kosugi fails to teach that the communication unit having an antenna portion is provided on a wall **opposed** to a wall in which a liquid port is provided, which, here is the upper face.

Nor does Usui '820 remedy this deficiency of Kosugi. Usui '820 is cited only as teaching a liquid container with a detection unit mounted on a base body. Even assuming arguendo that this is correct, it remains that Usui '820 does not remedy the above-noted deficiencies of Kosugi. Usui '820 is concerned with monitoring the level of ink, and there is no suggestion of a communication unit with an antenna, much less a communication unit with an antenna arranged in the manner claimed. So Usui '820 suffers from the same shortcomings as Kosugi. Accordingly, even if Usui '820 and Kosugi are combined, that combination still fails to even suggest the claimed invention.

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Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claims 8 and 9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kosugi in view of U.S. Patent No. 6,416,152 to Matsuzaki. Applicants respectfully traverse this rejection and submit the following arguments in support thereof.

As noted in footnote 1 above, were Kosugi only available under 35 U.S.C. § 102(e), this rejection would be improper as being contrary to M.P.E.P. § 2146. Because Applicants believe Kosugi also is prior art under 35 U.S.C. § 102(a), they will address the merits of this rejection.

As explained earlier in response to the rejection under § 102, Kosugi fails to teach that the communication unit having an antenna portion is provided on a wall **opposed** to a wall in which a liquid port is provided, which, here is the upper face.

Nor does Matsuzaki remedy this deficiency of Kosugi.

First, it is noted that Matsuzaki was cited as teaching a recessed portion in which a memory is housed, and the use of a protective cover material so that a gap is defined between the memory device and the protective cover. Regardless of whether that is correct, it remains that Matsuzaki does not remedy the above-noted deficiencies of Kosugi relating to the communication unit having an antenna portion arranged in a particular way, for the reasons which follow.

Although not specifically mentioned in the Office Action, it should be noted that Matsuzaki does provide for a radio communication device 35 on the cartridge. See Fig. 3a, Fig. 13 and column 6, lines 46-48. Matsuzaki states at col. 6, lines 42-46, that the semiconductor memory chip 32 is connected to a radio communication means by a conductive pattern 36.

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In other words, Matsuzaki discloses that the memory device 30 (Fig. 3a) is provided on the upper face of the cartridge (Fig. 3a) and the radio-communication device 35 is formed in the memory device 30 (Fig. 13).

However, Matsuzaki still does not suggest the present invention for at least the following reasons.

In Matsuzaki, the ink inlet port 25 and the air communicating port 26 are also formed on the upper face of the cartridge, as is shown in Figs. 2 and 3a, etc.

Claim 1 states the antenna portion occupies at least 70% of one wall surface region of the container.

Matsuzaki does not state that the antenna has any particular size, much less the size claimed. Given that Matsuzaki teaches the antenna is located on the upper face of the ink cartridge along with the ink inlet port and air communicating port, and in view of the space required for those other structures, it is submitted one skilled in the art would not find any teaching in Matsuzaki to provide an antenna portion in the manner claimed, wherein the antenna portion occupies at least 70% of one wall surface region of the cartridge.

Accordingly, Kosugi and Matsuzaki together still do not suggest all the features of the claimed invention. Favorable reconsideration and withdrawal of this rejection are therefore respectfully requested.

CONCLUSION

Applicants have made a diligent effort to place this application in condition for allowance and submit that the claims are in condition for allowance. If for any reason, however, the Examiner should deem that this application is not in condition for allowance, the Examiner is

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respectfully requested to telephone the undersigned attorney at the number listed below to resolve any outstanding issues prior to issuing a further Office Action.

No fees are believed to be due in connection with the filing of this Amendment. Nevertheless, the Commissioner is authorized to charge any fee now or hereafter due in connection with the prosecution of this application to Deposit Account No. 19-4709.

Prompt and favorable consideration are respectfully requested.

Respectfully submitted,



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